

Claims

1. A closed loop continuous emulsion polymerisation apparatus comprising a circulation pump, a reactor tube which connects the outlet of the circulation pump to its inlet, at least one feed for supplying raw materials, an outlet, an additional tube for by-passing a pig around the circulation pump and a pig receiving station which is in parallel connection with the circulation pump or the reactor tube.
2. The polymerisation apparatus according to claim 1, wherein the pig receiving station is integrated into the additional tube for by-passing the pig around the circulation pump.
3. The polymerisation apparatus according to claim 2, wherein the circulation pump has a suction side and a delivery side and the reactor tube has an aperture through which it is in fluid communication with the suction side of the circulation pump and continues on to the delivery side of the circulation pump, the part of the tube between the suction and delivery sides of the circulation pump serving as the pig receiving station.
4. The polymerisation apparatus according to claim 3, wherein the aperture is a slot extending substantially in the longitudinal direction of the reactor tube.
5. The polymerisation apparatus according to claim 4, wherein the width of the slot is smaller than the width of the pig.
6. The polymerisation apparatus according to claim 5, wherein the width of the slot increases downstream.
7. The polymerisation apparatus according to any one of claim 1, wherein the reactor comprises means for directing a pig into the pig receiving station.

8. The polymerisation apparatus according to claim 1, wherein at least a substantial part of the reactor tube forms at least one helical coil.
- 5 9. The polymerisation apparatus according to claim 1, further comprising a pig detector for checking whether the pig is present in the pig station.
10. A process for preparing an emulsion polymer comprising supplying monomer and water to the polymerisation apparatus according to claim 1.
- 10 11. The process according to claim 10, wherein a pig is launched at intervals ranging from 1 to 60 minutes.
- 15 12. The process according to claim 10, wherein a pig is launched at intervals ranging from 10 to 20 minutes.